

# Public Security Advisory

Solidigm Product Security Incident Response Team

**Title:** Solidigm™ SSD Firmware Advisory

**Solidigm ID:** SOLIDIGM-SA-00563

**Advisory Category:** Public Security Advisory

**Impact of Vulnerability:** Escalation of Privilege, Denial of Service, Information Disclosure

## Summary:

Potential security vulnerabilities in some Solidigm™ (Formerly Intel®) SSD products may allow escalation of privilege, denial of service or information disclosure. Solidigm is releasing firmware updates and prescriptive guidance to mitigate these potential vulnerabilities.

## Vulnerabilities:

CVEID: [CVE-2021-33069](#)

CVSS Base Score: 6.0 Medium

CVSS Vector: [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:N/I:N/A:H](#)

CVEID: [CVE-2021-33074](#)

CVSS Base Score: 6.8 Medium

CVSS Vector: [CVSS:3.1/AV:P/AC:H/PR:N/UI:N/S:C/C:H/I:H/A:N](#)

CVEID: [CVE-2021-33075](#)

CVSS Base Score: 6.0 Medium

CVSS Vector: [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:N/I:N/A:H](#)

CVEID: [CVE2021-33076](#)

CVSS Base Score: 5.3 Medium

CVSS Vector: [CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:C/C:N/I:H/A:N](#)

CVEID: [CVE-2021-33077](#)

CVSS Base Score: 7.3 High  
CVSS Vector: [CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:C/C:H/I:H/A:N](#)

CVEID: [CVE-2021-33078](#)  
CVSS Base Score: 7.9 High  
CVSS Vector: [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:N/I:H/A:H](#)

CVEID: [CVE-2021-33079](#)  
CVSS Base Score: 4.1 Medium  
CVSS Vector: [CVSS:3.1/AV:L/AC:H/PR:H/UI:N/S:U/C:H/I:N/A:N](#)

CVEID: [CVE-2021-33080](#)  
CVSS Base Score: 7.3 High  
CVSS Vector: [CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:C/C:H/I:H/A:N](#)

CVEID: [CVE-2021-33081](#)  
CVSS Base Score: 7.9 High  
CVSS Vector: [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:N/I:H/A:H](#)

CVEID: [CVE-2021-33082](#)  
CVSS Base Score: 5.3 Medium  
CVSS Vector: [CVSS:3.1/AV:P/AC:L/PR:N/UI:N/S:C/C:H/I:N/A:N](#)

CVEID: [CVE-2021-33083](#)  
CVSS Base Score: 6.0 Medium  
CVSS Vector: [CVSS:3.1/AV:L/AC:L/PR:H/UI:N/S:C/C:N/I:N/A:H](#)

## Affected Products & Recommendations

Footnote: 1. Consult prescriptive guidance concerning CVE-2021-33082

| <b>Product Family (all formerly Intel®)</b>  | <b>Mitigated Version or higher</b> |
|--|------------------------------------|
| <b>Solidigm™ SSD DC P4511 Series (M.2 &amp; Opal)</b>                                      | VCV1MD1A or VDC1LZ37               |
| <b>Solidigm™ SSD DC P4511 Series (E1.S)</b>  | VEV10284                           |
| <b>Solidigm™ SSD DC P4610 Series (Opal)</b>  | VDV10184                           |
| <b>Solidigm™ SSD D5 P4326 (Opal)</b>   | 8DV1MD58                           |
| <b>Solidigm™ SSD D3-S4510 Series (2.5")</b><br><b>Solidigm™ SSD D3-S4610 Series (2.5")</b> | XCV10132                           |
| <b>Solidigm™ SSD D3-S4510 Series (m.2)</b><br><b>Solidigm™ SSD D3-S4610 Series (m.2)</b>   | XC311132                           |
| <b>Solidigm™ SSD D7 P5500 Series</b><br><b>Solidigm™ SSD D7 P5600 Series</b>               | 2CV1R200, 2CV1C030, 1.1.5          |
| <b>Solidigm™ SSD D7 P5510 Series (Opal)</b>  | JCV10200                           |
| <b>Solidigm™ SSD D5-P5326 Series</b>   | ACV10200                           |
| <b>Solidigm™ SSD DC P3100 Series</b>   | 119D                               |
| <b>Solidigm™ SSD DC S4500 Series</b><br><b>Solidigm™ SSD DC S4600 Series</b>               | SCV10150                           |
| <b>Solidigm™ SSD 600p Series</b>   | 122C                               |
| <b>Solidigm™ SSD 660p Series</b>   | 005C <sup>1</sup>                  |
| <b>Solidigm™ SSD 665p Series</b>   | 002C <sup>1</sup>                  |
| <b>Solidigm™ SSD 670p Series</b>   | 003C                               |
| <b>Solidigm™ SSD 700p Series</b>   | 005C <sup>1</sup>                  |
| <b>Solidigm™ SSD 760p Series</b>   | 006C <sup>1</sup>                  |
| <b>Solidigm™ SSD Pro 7600p Series</b>  | 006P <sup>1</sup>                  |
| <b>Solidigm™ SSD E 6000p Series</b>  | 122E                               |
| <b>Solidigm™ SSD E 6100p Series</b>  | 006E <sup>1</sup>                  |
| <b>Solidigm™ SSD DC P3100 Series</b>   | 119D                               |
| <b>Solidigm™ SSD DC P4101 Series</b>   | 009D <sup>1</sup>                  |

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Solidigm recommends to always use the latest available Firmware

Updates are available for download at this location: [Solidigm Storage Tool](#)

Prescriptive guidance for CVE-2021-33082: Two possible workarounds is to use one of the following commands listed below instead of the Sanitize command with Block Erase operation:

- NVMe Sanitize command, Crypto Erase (SANACT=04h)
- NVMe Format NVM command, User Data Erase or Crypto Erase (SES=01h or SES=02h)

Check the Identify Controller Data Structure below, for capability your drive supports in lieu of Sanitize erase feature:

- Sanitize command, Crypto Erase (offset 331:328, SANICAP bit 00h)
- NVMe Format NVM command (offset 257:256, OACS bit 01h)

## Acknowledgements:

These issues were found internally by Intel® and/or Solidigm.

Solidigm, and nearly the entire technology industry, follows a disclosure practice called Coordinated Disclosure, under which a cybersecurity vulnerability is generally publicly disclosed only after mitigations are available.

Effective December 29<sup>th</sup>, 2021, all listed Solidigm™ SSDs (formerly Intel®) affected products are supported solely by Solidigm.

Any update to this communication will be available for download at this location: <https://www.solidigm.com/en/support.html>

For affected Intel® Optane™ products, Solidigm recommends customers consult Intel® Security Advisory published at: <https://www.intel.com/content/www/us/en/security-center/advisory/intel-sa-00563.html>

## Revision history:

| Revision | Date       | Description     |
|----------|------------|-----------------|
| 1.0      | 05/11/2022 | Initial Release |
|          |            |                 |

## Embargo:

The information in this Public Security Advisory is subject to public embargo until 10 a.m. (UTC -7) on 05/10/2022 ("Embargo"). This information may not be disclosed until after the Embargo without permission.

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